

IN THE CLAIMS:

Claims 1-52 (canceled).

Claim 53 (new). A process for preparing a feed supplement that promotes growth in animals comprising the steps of:

(i) preparing a dry metal carboxylate of formula $M(RCOOH)_2$, wherein M is a Zn^{2+} or Cu^{2+} cation of a divalent metal and R is H or a $CH_3(CH_2)_2$ group, by (a) mixing a carboxylic acid with a basic salt of the divalent metal to form a first reaction mixture that undergoes an exothermic reaction to form the metal carboxylate and water, and (b) stirring to remove water;

(ii) preparing a metal aminoate by (a) mixing water, a compound comprising the divalent metal, and an amino acid selected from the group consisting of glycine and methionine to form a second reaction mixture, (b) stirring the second reaction mixture to promote an exothermic reaction that forms the metal aminoate and water, and (c) removing water from the second reaction mixture; and

(iii) mixing the dry metal carboxylate and the metal aminoate under conditions that form a complex comprising the metal carboxylate and the metal aminoate and water, and removing the water to form a dry metal complex of the metal carboxylate and the metal aminoate, wherein, when administered to an animal in its feed, a bioavailability of the divalent metal in the dry metal complex is different than the bioavailability of the divalent metal in either the dry metal carboxylate or the metal aminoate alone.

Claim 54 (new). The process according to claim 53, wherein the basic salt in step (i) is zinc

oxide or copper oxide.

Claim 55 (new). The process according to claim 53, wherein the divalent metal compound in step (ii) is zinc sulphate or copper sulphate.

Claim 56 (new). The process according to claim 53, wherein the dry metal complex comprises carboxylate and aminoate in a weight ratio of 30/70 to 70/30.

Claim 57 (new). The process according to claim 53, wherein water is removed in steps (ii) and (iii) by vacuum and with intensifier turbines operating between 1500-3000 rpm.

Claim 58 (new). The process according to claim 57, wherein the removal of water in step (iii) is carried out at a temperature between 80°C and 100°C.

Claim 59 (new). The process according to claim 57, wherein the removal of water is carried out with an absorbent.

Claim 60 (new). The process according to claim 57, further comprising grinding the dry metal complex.

Claim 61 (new). A process for preparing a compound that promotes growth in animals comprising the steps of:

(i) mixing a carboxylic acid selected from the group consisting of formic acid and butyric acid with a hydroxy analog of methionine to form a first mixture;

(ii) mixing the first mixture with a basic compound of a divalent metal comprising Zn^{2+} or Cu^{2+} to form a reaction mixture that undergoes an exothermic reaction to form a complex comprising a carboxylate- methioninate hydroxy analog of the divalent metal and water, and

(iii) removing water to recover a dry metal complex of the carboxylate and methioninate hydroxy analog, wherein, when administered to an animal in its feed, a bioavailability of the divalent metal in the dry metal complex is different than the bioavailability of the divalent metal in either the dry metal carboxylate or the metal aminoate alone.

Claim 62 (new). The process according to claim 61, wherein the carboxylic acid, the hydroxy analog of methionine and the basic compound are mixed in step (ii) in a molar proportion of 2:2:2.

Claim 63 (new). The process according to claim 61, wherein the mixing in step (i) is carried out in a first reactor and the mixing in step (ii) is carried out in a second reactor.

Claim 64 (new). The process according to claim 63, wherein the mixing in step (ii) is carried out by providing the second reactor with the basic compound and then adding the first mixture to the second reactor.

Claim 65 (new). The process according to claim 61, wherein the mixing in step (ii) is carried out at a speed of 200-600 rpm.

Claim 66 (new). The process according to claim 61, wherein the water is removed under vacuum with stirring with a delumping intensifier turbine at a speed of 1500-3000 rpm.

Claim 67 (new). The process according to claim 66, wherein the removal of water is carried out with heating at a temperature between 80°C and 130°C.

Claim 68 (new). An animal feed supplement comprising a complex of a divalent metal carboxylate and an aminoate or hydroxy analog thereof, wherein a bioavailability of the divalent metal in the complex better than the bioavailability of the divalent metal in the carboxylate alone.

Claim 69 (new). The animal feed supplement according to claim 68, wherein the complex is formed from a dry metal carboxylate of formula $M(RCOOH)_2$, wherein M is a Zn^{2+} or Cu^{2+} cation of a divalent metal and R is H or a $CH_3(CH_2)_2$ group, and an aminoate comprising glycine or methionine and the cation.

Claim 70 (new). The animal feed supplement according to claim 69, wherein the complex comprises carboxylate and aminoate in a weight ratio of 30/70 to 70/30.

Claim 71 (new). The animal feed supplement according to claim 69, wherein the complex comprises zinc formate and glycinate.

Claim 72 (new). The animal feed supplement according to claim 69, wherein the complex comprises zinc formate and the hydroxy analog of methionine.

Claim 73 (new). The animal feed supplement according to claim 69, wherein the complex comprises copper formate and the hydroxy analog of methionine.

Claim 74 (new). The animal feed supplement according to claim 68, wherein the complex comprises a dry metal carboxylate of formula $M(RCOOH)_2$, wherein M is a Zn^{2+} or Cu^{2+} cation of a divalent metal and R is H or a $CH_3(CH_2)_2$ group, and a hydroxy analog of methionine.

Claim 75 (new). The animal feed supplement according to claim 74, wherein the complex comprises zinc formate and the hydroxy analog of methionine.